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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,157

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John J. Keating III

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EXAMINER

TORRENTE, RICHARD T

ART UNIT

PAPER NUMBER

2482

NOTIFICATION DATE

DELIVERY MODE

02/02/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/585,157

Applicant(s)

KEATING III, JOHN J.

Examiner

RICHARD TORRENTE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-160 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-160 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-4, drawn to scanning device, 3D calibration equipment with optical pulses and non-linear optics.

Group II, claim(s) 5-9, 11-28, 45, 117-128, 135-139, 156 and 157, drawn to 3D display, optical mixer, voxel, first-order non-linear interaction, and EM waves.

Group III, claim(s) 38, 39, 42, 44, 98-102, drawn to pulsed optical source, illuminating wavelength, gating optical, gating wavelength, time delay, mixer, and pixels.

Group IV, claim(s) 46-58 and 140, drawn to calibrating 3D imaging system, virtual calibration pattern, reference positions, calibration corrections, spatial locations and orientations, and adjusting images.

Group V, claim(s) 59-61, drawn to calibrating optical recorder, calibration pattern, calibration wavelength, tangent plane, intersection points and laser light beam.

Group VI, claim(s) 62, 63, 83 and 103, drawn to calibrating 3D imaging system, optical recorders, holographic calibration plates, fields of view, holographic calibration pattern, monolithic calibration plate and correction factors.

Group VII, claim(s) 64-82, 84-96, 104-107, 129, 130, 141, 142 and 160, drawn to calibrating 3D imaging system, desired wavelengths, holographic calibration plate, light source, calibration wavelengths, acquiring means, and virtual calibration pattern.

Group VIII, claim(s) 108-116, drawn to rendering 3D image, multidimensional optical recorder, spatial orientation, holographic calibration, combining multidimensional images, display, ultra short optical pulse, pulse times.

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Group IX, claim(s) 131-134 and 160, drawn to capturing 3D images, two-dimensional optical recorder, holographic calibration plate, holographic calibration pattern, light source, calibration wavelength, holographic calibration plate, virtual calibration pattern, field of view of 2D optical and proximal desired object, and holographic correction plate.

Group X, claim(s) 143-146 and 160, drawn to calibrating multi-dimensional optical recorder, holographic calibration plate, holographic calibration pattern, desired object, light source, virtual calibration pattern and time code and synchronization.

Group XI, claim(s) 147 and 149-153, drawn to diamonds, spatial position, imperfections, 3D calibration grids and stereographic microscope.

Group XII, claim(s) 148-153, drawn to counting biological specimens, grid intersection points, and 3D calibration grids.

Group XIII, claim(s) 154 and 155, drawn to combining images, wavebands, recording holographic calibration pattern wavelengths, illuminating calibration hologram, spatial orientations and positions, and biometric information.

Group XIV, claim(s) 158-160, drawn to aircraft optical recorders, calibration hologram, aircraft optical window, spatial orientations and positions, holographic calibration plate, calibration wavelength, and calibration pattern.

2. The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Invention I has unique inventive concept such as non-linear optics to display and record 3D image.

Invention II has unique inventive concept such as controlling brightness of light produced.

Invention III has unique inventive concept such as first portion filter and second unfiltered portion which passes light.

Invention IV has unique inventive concept such as pixel array, coordinates parallel or normal to the pixel array.

Invention V has unique inventive concept such as intersection points, subset of intersection points and numerical order.

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Invention VI has unique inventive concept such as shift, rotation and scaling correction factors.

Invention VII has unique inventive concept such as optical shutter for blocking wavelengths.

Invention VIII has unique inventive concept such as optical recorders capture shape, color, texture, and shading data to the display.

Invention IX has unique inventive concept such as separating desired and calibration wavelength.

Invention X has unique inventive concept such as providing time code and synchronization to multiple 3D imaging.

Invention XI has unique inventive concept such as calculating a position of diamond imperfection using next nearest intersection.

Invention XII has unique inventive concept such as counting specimens whose position are known relative to the selected 3D calibration grids.

Invention XIII has unique inventive concept such as identifying individuals using biometric information including fingerprint, hand geometry and vein structure.

Invention XIV has unique inventive concept such as collision avoidance system and variable plate hologram.

3. A telephone call was made to Joseph Agostino on 1/27/11 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does

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not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention or species.

Should applicant traverse on the ground that the inventions have unity of invention (37 CFR 1.475(a)), applicant must provide reasons in support thereof. Applicant may submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. Where such evidence or admission is provided by applicant, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Torrente/
Examiner, Art Unit 2482